REMARKS

The present response is to the Office Action mailed in the above referenced case on November 3, 2004. Claims 16-18, 21-22 and 26-29 rejected under 35 U.S.C. 102(e) as anticipated by Blair (U.S. 6,738,824), hereinafter Blair. Claims 1-15, 19-20, 23-25 and 30-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blair in view of Gisby (U.S. 6,044,146), hereinafter Gisby.

Applicant has carefully studied the prior art presented by the Examiner, and the Examiner's rejections and statements of the instant Office Action. In response, applicant slightly amends the language of the base claims only to more clearly recite the claimed access numbers and data connectivity between the user and network nodes, without substantially limiting the claim language. Applicant further presents arguments to clearly establish that the present invention as embodied in the independent claims of the present invention, as judicially amended herein, is unarguably distinct from that of the combined prior art, and that not all of the limitations recited in the claims as amended are taught, suggested or intimated in the prior art presented, either singly or in combination.

Applicant slightly amends the language of the independent claims to more clearly recite that the lower and higher priority access numbers used for the data connection between the user and network nodes are Internet access telephone numbers, and that the data connection using the lower or higher priority access numbers is switched according to the priority characteristics of the access telephone numbers of the priority list. As an aid in prosecution, applicant reproduces the independent claims below in amended form.

Claim 1 as amended now recites:

1. (Amended) A network-based hardware and software system for enabling priority-based Internet access telephone number switching from a lower priority access number

to a higher priority access number during a data session through monitoring current connection states of a user node connected to the network during session and comparing those states with current states of known alternate access numbers available to the user node during the network session, comprising:

a CTI-switch for establishing call connections and performing call switching according to instruction formulated through the monitoring;

a network-hosted part of a software application for monitoring the current user-node connection states and the current states of the alternate access numbers and for directing the CTI-switch function based on results of the monitoring;

at least two network-access nodes connected to the network, the access nodes each accessible through dialing a network-access telephone number from the user node; and

a client-hosted part of the software application for listing access numbers, configuring priority states to the access numbers based on priority characteristics of the access numbers including one or both of call connection cost and bandwidth characteristics, and for communicating the pertinent data to the network-hosted part of the software application, characterized in that a user connected to the network using a lower priority access number may continue the network session while a higher priority access number available to the user's node is identified from a list of alternate numbers through the monitoring performed by the network-hosted software application during the session, the identified number, also identified as currently accessible to the user's node, is either secured by the CTI-switch on behalf of the user, the user's node then disconnected and then re-connected to the secured number, or rendered to the user in a network notification after which, the user may manually disconnect and then re-connect to the available number.

Claim 16 as amended now recites:

16. (Amended) A software-control application for enabling priority-based Internet access telephone number switching from a lower priority access number to a higher priority access number during a data session conducted by a user connected to a data-packet-network through one of a list of available access numbers comprising:

a network-hosted part of the software application for initiating and directing the priority-based number switching based on monitored results;

a client-hosted part of the software application for configuring at least one access number list including associated priority characteristics including those of one or both of call connection cost and bandwidth, and communicating the listing characteristics to the network-hosted part of the software application; and

a network-communication path between the client-hosted part of the software application and the network-hosted part of the software application, the network-communication path enabling bi-directional communication between the parts of the software application, characterized in that the data connection for a user engaged in a data session on the data-packet-network using a lower priority access number may during the session be switched according to software instruction from the connection using the lower priority access number to a connection using an identified higher priority access number during the same session without manual intervention required of the user.

Claim 27 as amended now recites:

27. (Amended) In an active data session conducted by a user operating a computerized node on a data-packet-network, a method for detecting an available higher priority Internet access telephone number from a list of known numbers and switching the connection of the computerized node to a connection using the higher priority access number during the session comprising steps of:

(a) connecting the computerized node to the network using a lower priority number included in the list of known numbers;

(b) identifying the current lower priority number in the list of known numbers;

(c) comparing the priority assignment of the lower priority number with the priority assignments of other numbers in the list of known numbers;

(d) identifying one or more higher priority numbers contained in the list of known numbers;

(e) monitoring the identified higher priority numbers for one or both of connection cost and availability; and

(f) upon detecting an available higher priority number, switching the current data session connection using the lower priority access number to a connection using the higher priority access number.

The Examiner has stated in his remarks that, regarding claims 16 and 27, the reference of Blair teaches applicant's software-control application and method for enabling priory-based number switching from a lower-priority access number to a higher-priority number during a data session conducted by a user connected to a data packet network through one of a list of available access numbers, comprising all of the limitations of applicant's claims. Applicant respectfully traverses the Examiner's interpretation of the teachings of the primary reference of Blair as reading on applicant's invention. The reference of Blair clearly teaches an alternative invention for solving an alternative problem, achieving the end result in an alternative manner, as is detailed below by applicant.

Firstly, upon thorough review of Blair, it is clear to applicant that Blair teaches nothing whatsoever to do with switching the data connection between a user node and network level nodes, by switching the Internet telephone access numbers used in obtaining the data connection, from one access number having a first priority assigned based on monitored call and connection characteristics, to another access number having a second priority assigned. The reference, in fact, nowhere mentions or suggests anything having to do with switching data connections on behalf of the user by switching Internet access telephone numbers used in said data connections, or application software

comprising a list of current and alternate Internet access telephone numbers from which to establish alternate data connections during a data session, each access number having a specific priority assigned, based on characteristics of the access telephone number, such as toll cost, etc.., or other characteristics of the data connection using the Internet access telephone number for dial-up Internet access.

Blair teaches, by monitoring the state of congestion of gateway (GW) servers, reallocation of ports of the gateways, from dial-in service to dial-out service, or vice-versa, depending on the current utilization of the ports of the gateway. The system of Blair may reallocate the ports of the gateway, or select alternative gateways (not alternative Internet access telephone numbers) if required (col. 5, line 1-8). The invention of Blair teaches selecting gateway links using static route redistribution, which deals with static route tables using Internet Protocol (IP) addresses (col. 4, lines 32-44), and attempts to deal with the problem of over-subscription for dial-out service provided by ports of the gateways.

Although the reference does mention switching dial-in and dial-out service for the ports of the gateways by port reallocation, there is clearly no teaching of switching a data connection using one Internet access telephone number for dial-up Internet service from an Internet Service Provider (ISP), to another data connection using an alternative Internet access telephone number.

In applicant's invention, during a data connection session between a user node and a network node, enabled by using an Internet access telephone number for dial-up service, the software application maintains a list of alternate access telephone numbers, each with a priority assigned based on known attributes of the telephone number, such as toll costs for a non-local telephone number, as well as monitored bandwidth characteristics of the data connection using a specific access telephone number.

As an example, a dial-up Internet user of applicant's invention is connected to a network server of an ISP, but upon initially logging into the ISP, the low-cost local telephone access number (high-priority) normally utilized for the data connection is notoriously busy, therefore preventing the dial-up which establishes the data connection. The user, in order to minimize toll charges during the session, is therefore compelled to limit the duration of the session. A list of several local and non-local access telephone numbers may be maintained by the software application, each access number having known characteristics and priority level assigned to each based on said characteristics.

If, during a data connection session using the lower-priority telephone number (alternate long distance number, for example) for dial-up access, a higher-priority access telephone number (local access number) may be chosen by the software application from the list of alternate access numbers maintained by the software, upon the software detecting that the higher-priority access number has now become freed for use in connection, and accessible for dial-up by the user node. In such a case, without disconnecting the data session using the lower-priority access number, the higher-priority access number is dialed, and a virtual connection is made in the background between the user node and the network node accessed by the higher-priority access number, and the data connection is switched from that using the lower-priority access telephone number to that using the higher-priority access telephone number, thereby greatly reducing the cost incurred through the duration of the data session.

Switching of the connection may be completely transparent to the user, requiring no manual actions from the user, or the user may be notified by the software that the connection switch has taken place, which may include that the dial-up connection call using a specific lower-priority access number has been disconnected, and the data session is now connected using a specific higher-priority telephone access number (local access telephone number).

In contrast, the invention of Blair addresses the problem of the fact that gateways (GW's) are not inherently flexible in their scalability and fail-safe operation, and attempts to solve the problem by reallocating dial-out service between ports of the gateways, such that the ISP may vastly over-subscribe the dial-out service, with the assumption that only a small fraction of the possible connections to the gateway may be in existence at any one point in time. By providing the gateways such flexibility, the ISP of Blair may reduce equipment costs, and better utilize bandwidth, but this does not affect the cost-effectiveness of a dial-up Internet connection for the user, as in applicant's invention. The cost benefits in Blair are clearly directed towards the service provider, not the end user initiating the dial-up connection. The teaching in Blair is more directed to bandwidth load-balancing between ports of the gateway, or between different gateways, not enabling a dial-up user to automatically, and transparently utilize the most cost-effective Internet telephone access number, during a session without disconnecting the session, thereby reducing the user's cost of the session.

For these reasons, as outlined above, applicant argues that independent claims 16 and 27, as judicially amended, are clearly and unarguably patentable over the primary reference of Blair, as Blair teaches an alternative invention solving alternative problem, and achieving the desired result in a different manner, then that of applicant's invention.

The Examiner has rejected claims 1-15, 19-20, 23-25 and 30-42 as being unpatentable over Blair in view of Gisby. Regarding claim 1, the Examiner has stated in his remarks that Blair teaches all of the limitations of applicant's claims, with the exception of explicitly teaching using a CTI-server switch for establishing connection, relying on Gisby to teach the deficiency. Independent claim 1 recites the network-based hardware and software system in accordance with the limitations of independent claims 16 and 27 as amended, and has been similarly slightly amended to agree and language with the limitations of claims 16 and 27. Claim 1 is therefore patentable over the primary reference of Blair as argued above by applicant on behalf of claims 16 and 27.

Independent claims 1, 16 and 27 are then patentable over the references of Blair or Gisby, either singly or in combination as amended and argued above by applicant. Depending claims 2-15, 17-26 and 28-42 are then patentable on their own merits, or at least as depended from a patentable claim.

As all of the claims standing for examination have been shown to be patentable over the art of record, applicant respectfully requests reconsideration and that the present case be passed quickly to issue. If there are any time extensions due beyond any extension requested and paid with this amendment, such extensions are hereby requested. If there are any fees due beyond any fees paid with the present amendment, such fees are authorized to be deducted from deposit account 50-0534.

Respectfully Submitted,
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